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TITLE: PRODUCTION OF HOT-DIP ZN-MG-AL COATED STEEL SHEET
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ABSTRACT:

PURPOSE: To obtain the steel sheet excellent in adhesive strength and corrosion resistance in a worked part by exerting Ni precoating and then performing hot dipping under specific heating conditions.

CONSTITUTION: After the surface of a steel sheet is plated with Ni by 0.2-2g/m², heating is exerted in a nonoxidizing or reducing atmosphere up to 430-500°C sheet temp. at ≥30°C/sec temp.-rise rate. This steel sheet is immersed, without exposure to the air, into a galvanizing bath containing 0.1-1% Al and 0.05-3% Mg, and the resulting hot-dipped steel sheet drawn up from the bath is subjected to the regulation of coating weight in a nonoxidizing or reducing atmosphere and solidified by cooling. By this method, a thick reaction layer consisting of Ni-Al-Mg-Zn quaternary alloy layer can be obtained in the interface between the Zn-Mg-Al plating layer and the ferrite

and a Zn-Mg-Al plating layer is allowed to exist on the above reaction layer,
and the thickness of the Zn-Fe alloy layer can be minimized and, as a result,
the purpose can be accomplished.

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